

REQUIRED SUPPLEMENTARY INFORMATION

Condition Assessments and Preservation of Infrastructure Eligible for Modified Approach

Roads

The County performs condition assessments on its network of roads through the King County Pavement Management System. This system generates a Pavement Condition Index (PCI) for each segment of arterial and local access road in the network. The PCI is a numerical index from zero to one hundred (0 – 100) that represents the pavement's functional condition based on the quantity, severity, and type of visual distress, such as pavement cracking. Based on the PCI score, condition ratings are assigned as follows: a PCI of less than 30 is defined as "poor to substandard" (heavy pavement cracking and potholes); a PCI of 30 or more but less than 50 is defined to be in "fair" condition (noticeable cracks and/or utility cuts); and a PCI of between 50 and higher is defined to be in "excellent to good" condition (relatively smooth roadway). Condition assessments are undertaken every three years.

The most recent condition assessments of the County's roads are shown below.

Condition ratings	2007-2005		2004-2002		2001-1999	
	(miles)	%	(miles)	%	(miles)	%
Arterial roads						
Excellent to good	485.4	89.6	442.9	81.7	451.1	83.0
Fair	14.5	2.7	61.1	11.3	44.5	8.2
Poor to substandard	41.6	7.7	38.0	7.0	47.6	8.8
Total	<u>541.5</u>	<u>100.0</u>	<u>542.0</u>	<u>100.0</u>	<u>543.2</u>	<u>100.0</u>
Local access roads						
Excellent to good	1,094.5	83.4	1,075.4	81.6	1,031.1	80.0
Fair	127.3	9.7	139.0	10.6	132.3	10.3
Poor to substandard	91.2	6.9	102.9	7.8	125.5	9.7
Total	<u>1,313.0</u>	<u>100.0</u>	<u>1,317.3</u>	<u>100.0</u>	<u>1,288.9</u>	<u>100.0</u>

It is the policy of the King County Road Services Division to maintain at least 80 percent of the road system at a PCI of 40 or better. The following table (derived from the table of condition ratings) shows the number and percentage of miles of roads that meet the 40 PCI level.

PCI score interval	2007-2005		2004-2002		2001-1999	
	(miles)	%	(miles)	%	(miles)	%
Arterial roads						
PCI 40 - 100	493.4	91.1	475.6	87.7	477.8	88.0
PCI 0 - 39	48.1	8.9	66.4	12.3	65.4	12.0
Total	<u>541.5</u>	<u>100.0</u>	<u>542.0</u>	<u>100.0</u>	<u>543.2</u>	<u>100.0</u>
Local access roads						
PCI 40 - 100	1,170.3	89.1	1,165.6	88.5	1,108.3	86.0
PCI 0 - 39	142.7	10.9	151.7	11.5	180.6	14.0
Total	<u>1,313.0</u>	<u>100.0</u>	<u>1,317.3</u>	<u>100.0</u>	<u>1,288.9</u>	<u>100.0</u>

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The majority of roads that fall below the established rating (PCI = 40) are local access roads that are situated in rural areas.

Below is information on planned (budgeted) and actual expenditures incurred to maintain and preserve the road network at or above the minimum acceptable condition level from 2003 to 2007. The budgeted amount is equivalent to the anticipated amount needed to maintain roads up to the required condition level (in thousands). The amounts reported for prior years (2003-2006) were revised upward from those reported in the 2006 CAFR because certain infrastructure activities previously considered capital were actually preservation or maintenance under the modified approach.

	<u>2007</u>	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>
Budgeted	\$61,864	\$58,709	\$49,321	\$48,008	\$49,719
Expended	51,859	49,029	39,986	38,093	41,946
amounts for 2003-2006 restated					

Underspending of budgeted amounts usually results when roads are removed from the project list because of conflicts with anticipated utility work; lowering of priority due to cost efficiency considerations, such as when only a few roads are to be resurfaced in remote locations; and weather-related work reduction or stoppages.

Bridges

King County currently maintains 184 bridges. Physical inspections to determine the condition of bridges and the degree of wear and deterioration are carried out at least every two years. Inspections reveal deficiencies in bridges such as steel corrosion, damaged guardrails, rotten timbers, deteriorated bridge decks, bank erosion, and cracked concrete. These are documented in an inspection report along with recommended repairs and needed services. Five pedestrian bridges are included in the list of bridges being maintained by the County. These are also subject to condition assessments but under different standards as the more heavily used vehicular bridges.

Each year the County undergoes a bridge prioritization process to determine potential candidates for replacement or rehabilitation. A weighted 10-point priority scale (sufficiency rating, seismic rating, geometrics, hydraulics, load limits, traffic safety, serviceability, importance, useful life, and structural concern) ranks the bridges in order; the results are considered in the planning and programming of major bridge studies and construction projects in the Roads Capital Improvement Program.

A key element in the priority score is the sufficiency rating, the measure considered by state and federal governments as the basis for establishing eligibility and priority for bridge replacement or rehabilitation funding. The sufficiency rating is a numerical rating of a bridge based on its structural adequacy and safety, essentiality for public use, and its serviceability and functional obsolescence. The formula used to calculate the sufficiency rating for a particular bridge is dictated by the Federal Highway Administration and is built into the State's inspection software. The software used by the State was upgraded in 2007 and now calculates the sufficiency rating more accurately than the past versions. The sufficiency rating may vary from 100 (a bridge in new condition) to 0 (a bridge incapable of carrying traffic). A sufficiency rating of 50 or over indicates a bridge with a good deal of service life remaining. A bridge that scores between

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0 and 49 could be considered for replacement or rehabilitation funding, though typically only bridges that score less than 30 are selected for funding.

Below are the three most recent bridge sufficiency ratings.

<u>Bridge sufficiency rating</u>	<u>Number of Bridges</u>		
	<u>2008*</u>	<u>2006</u>	<u>2004</u>
0 - 20	6	6	9
21 - 30	2	2	2
31 - 49	18	20	20
50 - 100	158	159	156
Totals	<u>184</u>	<u>187</u>	<u>187</u>

* updated for bridges inspected as of 12/31/07

It is the policy of the King County Road Services Division to maintain bridges in such a manner that no more than 12 will have a sufficiency rating of 20 or less. A rating of 20 or less is usually indicative of a bridge with a structural deficiency. The most common remedy is full replacement or rehabilitation of the bridge.

Amounts budgeted and spent to maintain and preserve bridges from 2003-2007 are shown in the table below (in thousands). The amounts reported for prior years (2003-2006) were revised upward from those reported in the 2006 CAFR because certain infrastructure activities previously considered capital were actually preservation or maintenance under the modified approach.

	<u>2007</u>	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>
Budgeted	\$24,834	\$17,024	\$26,855	\$17,074	\$16,376
Expended	16,189	11,526	16,810	12,529	8,448

amounts for 2003-2006 restated

The budgeted amount is equivalent to the anticipated amount needed to maintain and preserve the bridges up to the required condition level. Generally, backlogs in maintenance work orders greatly affect the trend in maintenance costs. Such backlogs could result from increased bridge traffic, higher weight loads, labor shortages, stringent environmental restrictions, and an aging inventory.